What is Lp(a)?
Lipoprotein(a) is an LDL particle with an apolipoprotein(a) attached to it. It is involved in the formation of plaque and is a very strong independent risk factor for cardiovascular disease. Lp(a) accumulates in atherosclerotic plaque and its plasma concentration is predictive of heart disease in many patients. Because the density of Lp(a) overlaps that of dense LDL and buoyant HDL, separation of Lp(a) by density alone is inherently difficult. For this reason, it is important to measure Lp(a) directly with a specific Lp(a) assay in order to get truly accurate results.

Why measure Lp(a)?
According to the National Cholesterol Education Program (NCEP), only about half of the variability in coronary heart disease risk can be attributed to conventional risk factors (i.e. LDL, HDL and triglyceride levels). Other, more specific risk factors, enhance predictive power of cardiovascular disease in individuals. Lp(a) is one of these specific risk factors that may be independent of other lipid-related risk factors.

Why is Lp(a) so harmful?
Evidence suggests that Lp(a) may serve as the link between thrombosis and atherosclerosis. The surface of many genetic variations of Lp(a) is very similar to the surface of plasminogen, an anti-thrombotic molecule. Due to their similar structure, Lp(a) blocks the receptor site for plasminogen, thus inhibiting the formation of plasmin, the fibrinolytic enzyme that would normally bind to a clot and dissolve it. Recent clinical studies have implicated Lp(a) as a risk factor for blood clots whether or not atherosclerosis is present. Because Lp(a) is a small, very dense LDL, it can easily penetrate the arterial lining, become oxidized and build plaque, thus contributing to atherosclerosis independent of its thrombotic potential.

How is high Lp(a) treated?
Although heredity plays a large role in the levels of Lp(a), treatment with niacin can lower levels of Lp(a).

References
Additional references at http://www.spectracell.com/online-library-lpp-lpa-abstract